

# (12) UK Patent Application (19) GB (11) 2 254 257 (13) A

(43) Date of A publication 07.10.1992

(21) Application No 9105120.1

(22) Date of filing 12.03.1991

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(51) INT CL<sup>5</sup>  
**A62B 18/02**

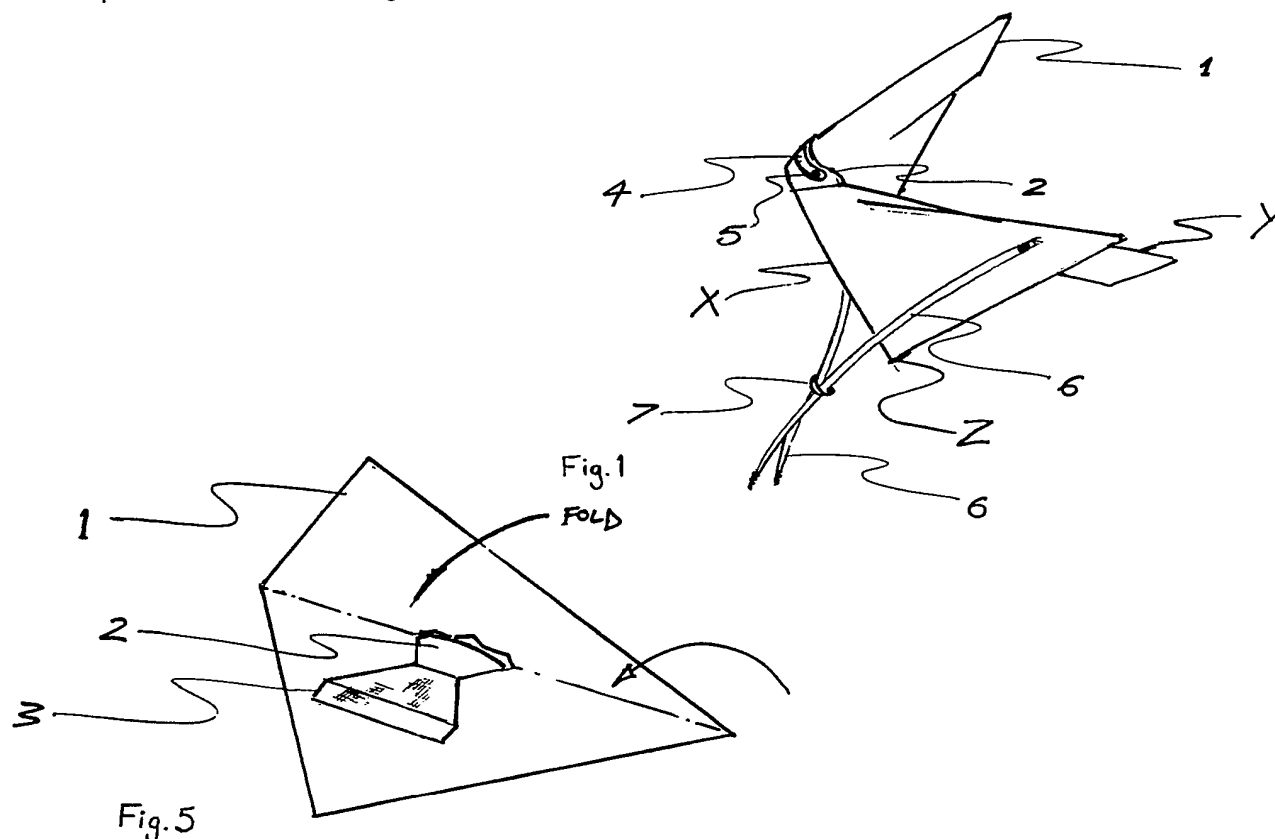
(52) UK CL (Edition K)  
**A5R TCS**

(56) Documents cited  
**GB 2179557 A GB 2046102 A GB 1588442 A**  
**GB 1556679 A GB 1158476 A GB 0984574 A**  
**US 3736928 A**

(58) Field of search  
UK CL (Edition K) **A5T TCS TCX**  
INT CL<sup>5</sup> **A41D, A62B**

## (54) Air filtering face mask

(57) A face mask comprises a cloth 1, which is folded in two to sandwich a charcoal cloth air filter 3 between the folds. A neoprene nose piece mounting a deformable aluminium nose clip 4 is also provided. Two cords 6 and a sliding ring 7 allow the lower portion 7 of the mask to be gathered under the chin.



At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1990.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1990.

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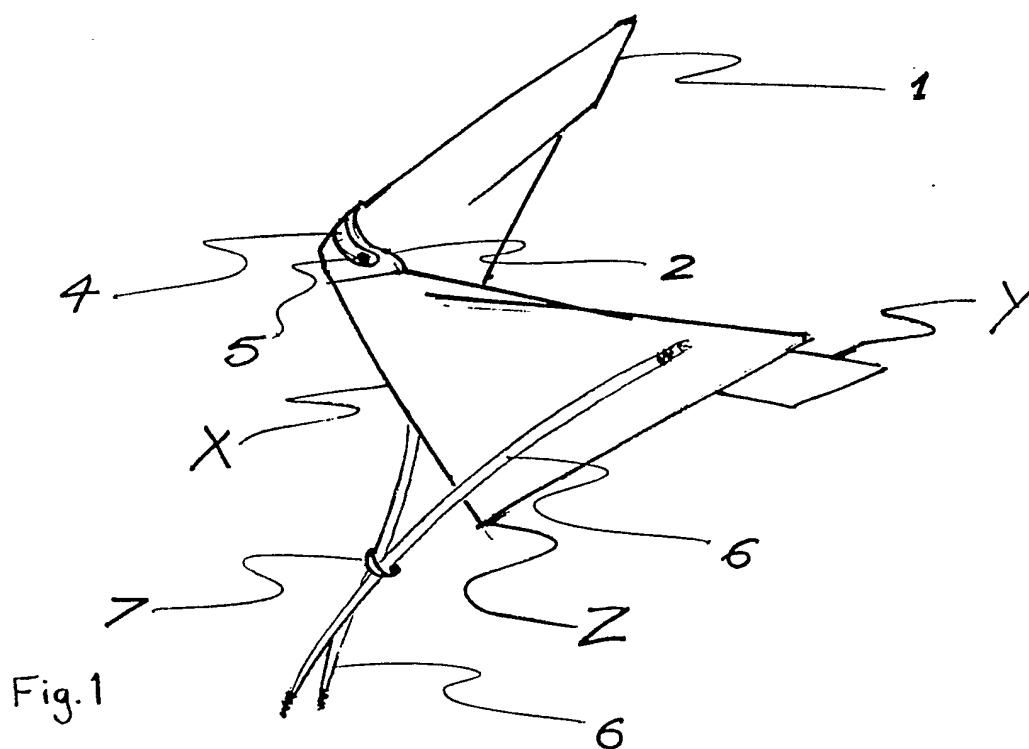


Fig. 1

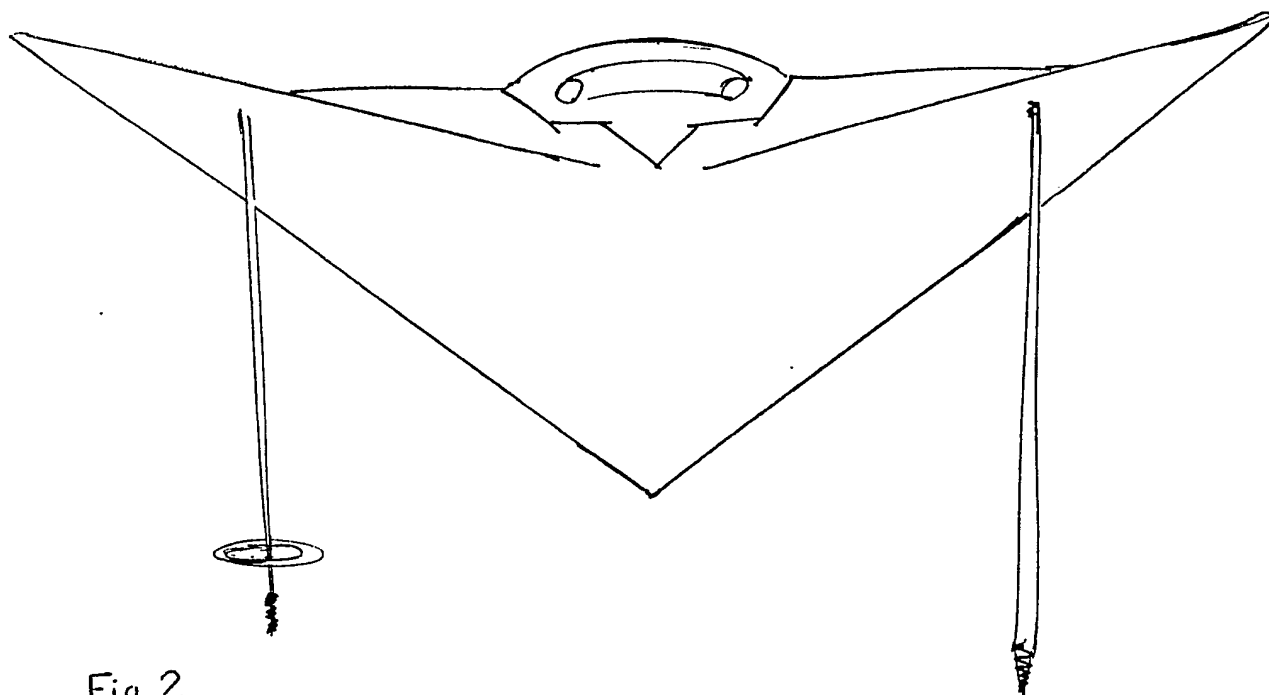


Fig. 2

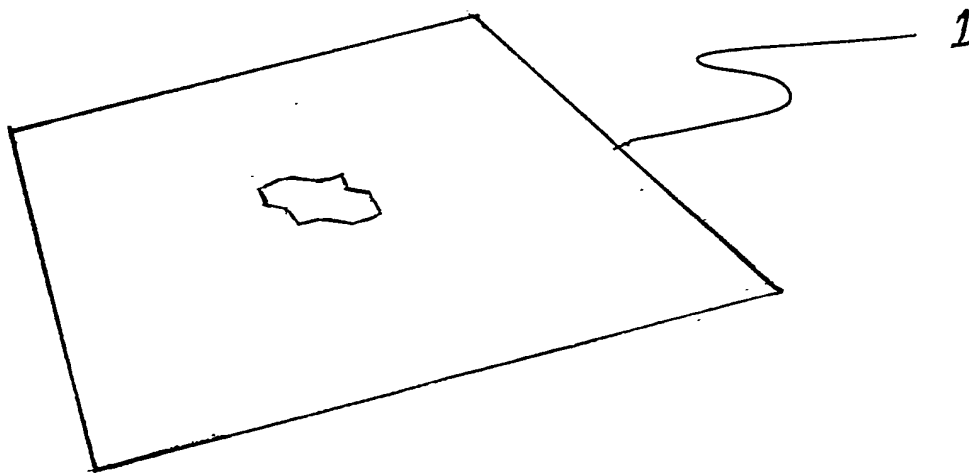


Fig. 3

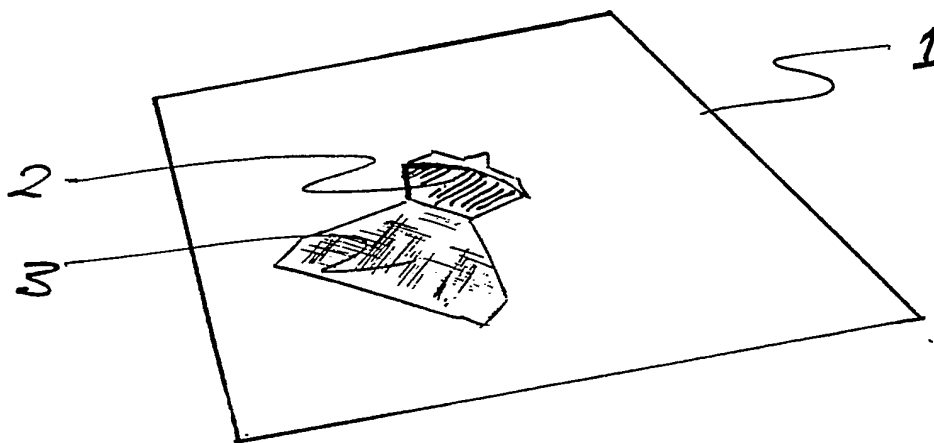


Fig. 4

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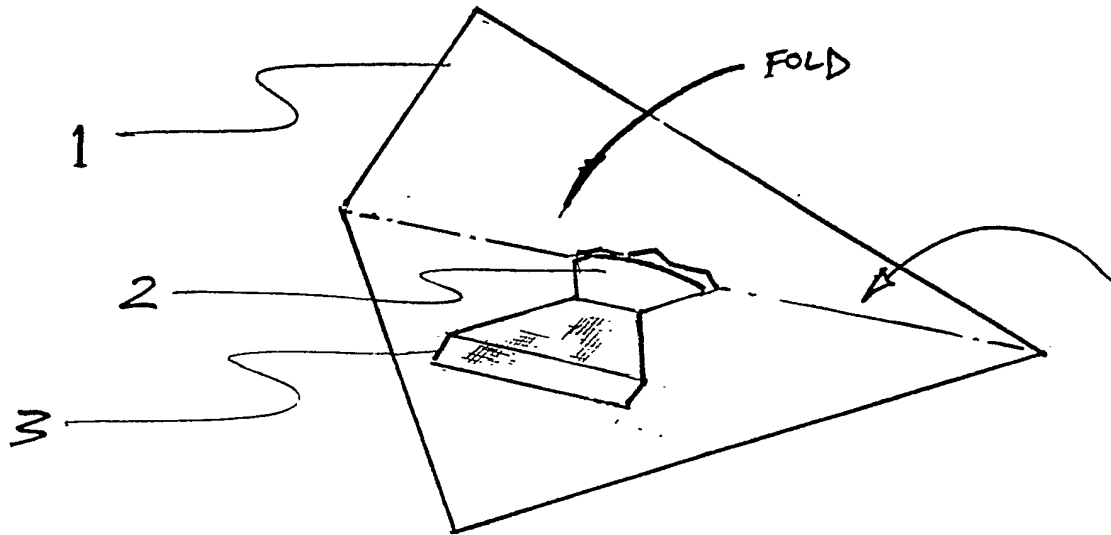


Fig. 5

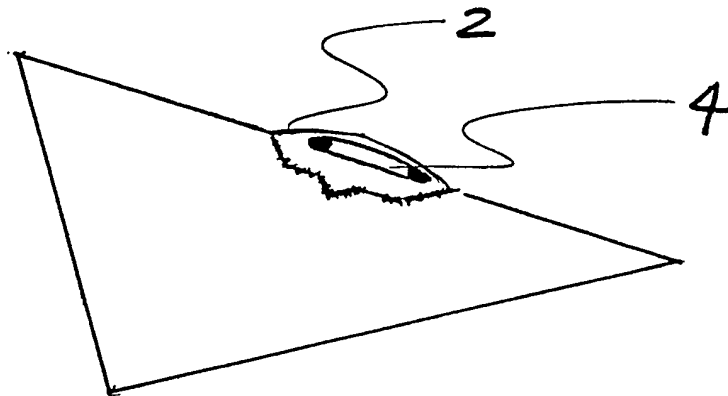


Fig. 6

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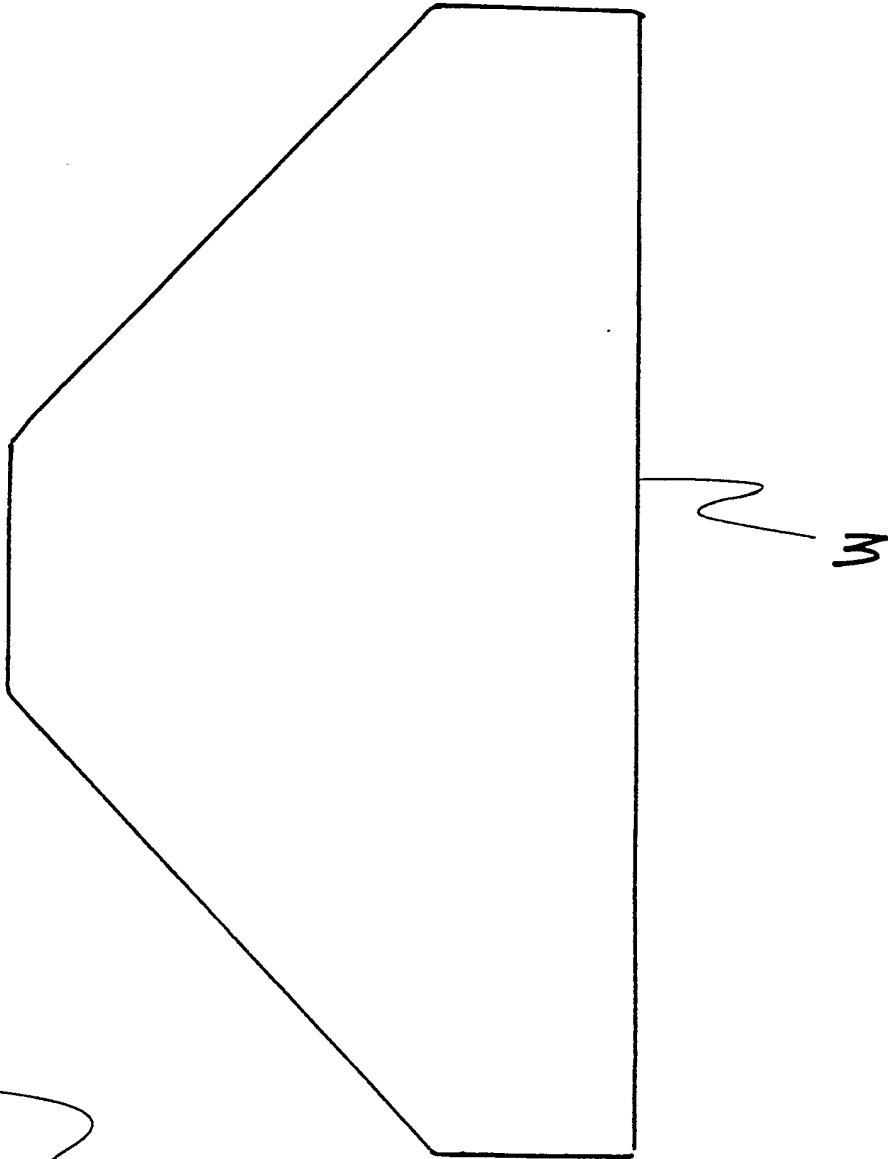


Fig. 7

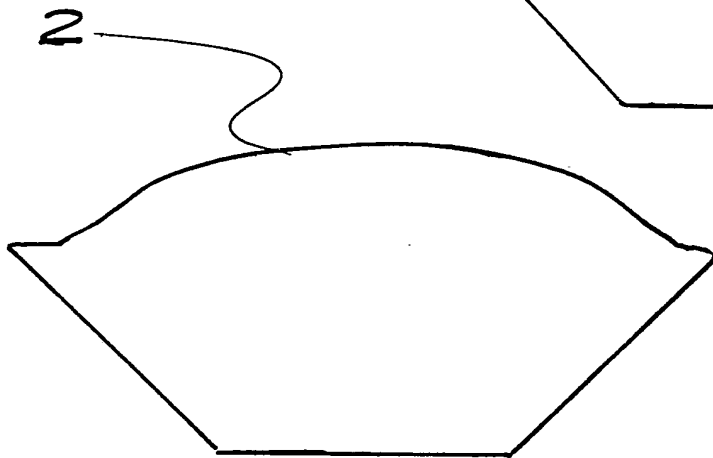


Fig. 8

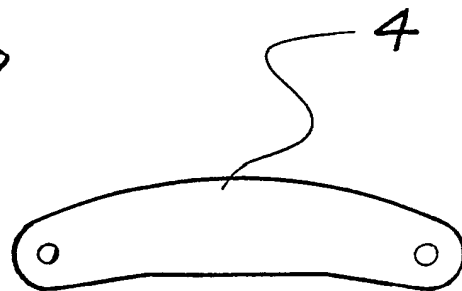


Fig. 9

## RESPIRATORY PROTECTION DEVICE

This invention relates to a respiratory protection device comprising a face cloth mask with a filter. The device is intended particularly, but not solely, for the use of cyclists or pedestrians in built up areas and on roads with high traffic density.

The invention provides a respiratory device comprising of a foldable cloth for covering at least the nose and mouth. The face mask having an air-permeable region for extending over at least the nasal and oral orifices, a washable flexible air permeable filter for extending over at least the nasal and oral orifices, the filter being sandwiched between the folded cloth and preferably maintained in its position between the folded cloth by fusing the folded cloth.

The face mask preferably is of a porous fabric, preferably cotton or a non woven man-made fabric, so as not to interfere to greatly with perspiration. The face cloth mask when folded conveniently has side pieces which are preferably the means for attaching the face cloth mask to the back of the head.

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The face cloth mask, when folded conveniently, has a bottom piece underneath which is preferably the piece for completing the sealing of the mask from leakage.

Two pieces of cord fixed to the side of the face cloth allow an annular ring to be drawn up the two cords to enable the underneath piece to gather under the chin area following securing at the back of the neck.

The filter preferably comprises active carbon, preferably in the form of activated charcoal cloth. The surfaces of the cloth preferably have a lining, such as a particulate lining for enhanced strength, improved handling and increased ability to trap airborne particulate matter.

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FIGURE 1 Is a perspective view of a respiratory protection device.

FIGURE 2 Is a front elevation of a respiratory protection device.

FIGURE 3 Is a perspective view of the panel of the panel of foldable cloth.

FIGURE 4 Is a perspective view of the panel of foldable cloth with the charcoal filter panel and neoprene nose piece in position.

FIGURE 5 Shows the panel of cloth in a half folded position indicating the fold line.

FIGURE 6 Shows the folded panel with the neoprene nose piece and aluminium nose clip in place.

FIGURE 7,8,9 Shows the components shapes and actual size:  
7 - Charcoal filter panel (3)  
8 - Neoprene nose piece (2)  
9 - Nose clip aluminum (4)

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- The respiratory protection device illustrated comprises of a face cloth mask (1) and a filter (3) which is laminated between the face cloth mask when folded.
- The face cloth mask (1) has a face covering portion (X) which is extended vertically from the top of the nose to the chin and horizontally from cheek to cheek and integral side peices (Y) whose rear ends are used for securing the device around the back of the neck.
- The face cloth mask (1) has a layer of weaved charcoal cloth (3) that extends vertical from the top of the nose and horizontally from cheek to cheek. This material is laminated between the folded face cloth mask by means of a heat transfer process.
- A plastically deformable nose clip (4) comprising of a pressing made from annealed aluminium is fastened on to the neoprene nasal piece (2) by ratchet rivet devices (5).
- On each end (Y) of the face cloth mask (1) is attached a cord (6) which when the device is worn hang down to the neck. When the annular ring (7) slides up the two cords it gathers the underneath piece (Z) of the face cloth mask (1) under the chin producing a seal.

Claims:-

1. A respiratory protection device comprising a foldable cloth for covering the nose and mouth when folded, and an air filter for extending over at least the nasal and oral orifices.
2. A respiratory protection device as claimed in claim 1, in which the filter is sandwiched between two layers of the folded cloth.
3. A respiratory protection device substantially as described with reference to, and as shown in, the accompanying drawings.

Patents Act 1977  
Examiner's report to the Comptroller under  
Section 17 (The Search Report)

-6-

Application number

9105120.1

Relevant Technical fields

(i) UK CI (Edition K ) A5T TCS, TCX

(ii) Int CL (Edition 5 ) A62B; A41D

Search Examiner

J A WALLIS

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search

1 MAY 1992

Documents considered relevant following a search in respect of claims

1 AT LEAST

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2179557 A (MARTIN) NB. Lines 106-114, column 1 and filter bodies 20	1, 2
X	GB 2046102 A (RACAL LTD) eg. Lines 118-125, page 3	1, 2
X	GB 1588442 (SECRETARY OF STATE) Whole document pertinent	1, 2
X	GB 1556679 (JOHNSON LTD) Whole document pertinent	1, 2
X	GB 1158476 (ANDERSSON LTD) Whole document pertinent	1, 2
X	GB 984574 (HARLAND) Material of the folded material over sheet 1, constitutes a filter	1, 2 at least
X	US 3736928 (ANDERSSON) as above	1, 2 at least

Category	Identity of document and relevant passages	Relevant to claim(s)

**Categories of documents**

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

A: Document indicating technological background and/or state of the art.

P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family, corresponding document.

**Databases:** The UK Patent Office database comprises classified collections of GB, EP, WO and US patent specifications as outlined periodically in the Official Journal (Patents). The on-line databases considered for search are also listed periodically in the Official Journal (Patents).